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10/030,207	08/10/2004	Amit Mate	NOKIA.4010US	8979

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EXAMINER
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TORRES, JOSEPH D

ART UNIT	PAPER NUMBER
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2112

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	Application No. 10/030,207	Applicant(s) MATE ET AL.	
	Examiner Joseph D. Torres	Art Unit 2112	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 29 October 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 23-47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 23-47 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Objections***

Claims 24-30, are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 24, fail to recite any step/action further limiting the method of claim 23.

Claims 38, 39, are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 24, fail to recite any structural element further limiting the apparatus of claim 38.

### ***Claim Rejections - 35 USC § 112***

Claims 23-34 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The preamble of claim 1 recites "A method for generating acknowledgement messages", yet the limitations recite no step/action, but instead recite an abstract data structure. The omitted steps are: method steps leading to generation of acknowledgement messages.

Claims 38 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential structural cooperative relationships of elements, such omission amounting to a gap between the necessary structural connections. See MPEP § 2172.01. The omitted structural cooperative relationships are: structural element further limiting the apparatus of claim 38.

***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 23-34 and 47 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The preamble of claim 1 recites that the claims are directed to generating abstract data structures: acknowledgement messages.

The claims as written attempt to gain a patent on every "substantial practical application" of abstract data structures. MPEP 2106.01 states, "Both types of "descriptive material" are nonstatutory when claimed as descriptive material per se, 33 F.3d at 1360, 31 USPQ2d at 1759". Since the abstract data structures, i.e., acknowledgement messages, are not structurally and functionally interrelated to the any structure or device, the claims are nonstatutory.

1. Claim 47 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. A computer program product can be a computer program or signal carrying the computer program. Neither signals nor computer programs fall into any of the statutory categories of invention.

MPEP 2106.01 states, "Both types of "descriptive material" are nonstatutory when claimed as descriptive material per se, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most case".

Since the computer program of claim 47 is not functionally interrelated to the medium on which it is stored, claim 47 is non-statutory.

### ***Response to Arguments***

Applicant's arguments filed 09/07/2007 concerning 35 U.S.C. 101 have been fully considered but they are not persuasive.

The Applicant contends, "Applicants have amended claim 47 to overcome the rejection. Specifically, applicants have amended claim 47 to require that the computer program be recorded on a tangible medium".

The Examiner disagrees and asserts MPEP 2106.01 states, "Both types of "descriptive material" are nonstatutory when claimed as descriptive material per se, 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some

computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most case".

Since the computer program of claim 47 is not functionally interrelated to the medium on which it is stored, claim 47 is still non-statutory.

The Applicant contends that the rejection of claims 43-47 in the previous Office Action, "ails to establish that Ejzak includes each and every one of the combination of features recited in the rejected claims. For example, each one of claims 43 to 47 recites the features of generating a plurality of data units, each data unit comprising a status bit indicative of the status of the data unit and a plurality of spacing bits that together form a binary representation of a number indicative of the spacing between one incorrectly received datagram and a succeeding incorrectly received datagram".

The Examiner disagrees and asserts col. 4, lines 7-36 in Ejzak teach periodically sending from the receiver to the transmitter a ordered bitmap specifying a 1 in an ordered packet position for a correctly received packet and a 0 for an incorrectly received packet. A contiguous group of ones (1s) between zeros (0s) in the bitmap is a binary representation of a number which is indicative of the spacing between incorrectly received packets. That is Ejzak teaches a contiguous group of status bits each status bit indicative of the status of the data unit since a 1 indicates correctly received and a 0 indicates incorrectly received; and a plurality of spacing bits comprising a group of ones (1s) together forming a binary representation of a number indicative (a group of consecutive ones between zeros is a binary number) of the spacing between one

incorrectly received datagram and a succeeding incorrectly received datagram (the number of consecutive ones between zeros provides the spacing between incorrectly receive packets).

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. Claims 23-29, 31, 35-38, 40 and 43-47 are rejected under 35 U.S.C. 102(e) as being anticipated by Ejzak; Richard P. et al. (US 5444718 A, hereafter referred to as Ejzak).

35 U.S.C. 102(e) rejection of claims 23, 35 and 43-47.

As per claims 23 and 47:

Col. 4, lines 7-36 in Ejzak teach periodically sending from the receiver to the transmitter a ordered bitmap specifying a 1 in an ordered packet position for a correctly received packet and a 0 for an incorrectly received packet. A contiguous group of ones (1s) between zeros (0s) in the bitmap is a binary representation of a number which is indicative of the spacing between incorrectly received packets. That is Ejzak teaches a

contiguous group of status bits each status bit indicative of the status of the data unit since a 1 indicates correctly received and a 0 indicates incorrectly received; and a plurality of spacing bits comprising a group of ones (1s) together forming a binary representation of a number indicative (a group of consecutive ones between zeros is a binary number) of the spacing between one incorrectly received datagram and a succeeding incorrectly received datagram (the number of consecutive ones between zeros provides the spacing between incorrectly receive packets).

As per claims 35 and 43-46:

Ejzak teaches use of a datagram checking unit or and acknowledgment generator (col. 2, lines 34-39 and Figure 2 in Ejzak).

35 U.S.C. 102(e) rejection of claim 24.

Figure 4 of Ejzak teaches that an acknowledgment bit map message can be divided up into partial bit maps.

35 U.S.C. 102(e) rejection of claim 25.

Col. 9, lines 10-15 in Ejzak teaches that the subfield "c" indicates whether a status report for NR (whereby NR-1 is the last correctly received packet sent to upper layers; Note: in Ejzak a correctly received packet will only be sent to the upper layers, if all previous packets in the sequence have been received correctly and sent to the upper layer) is in the group of packets for which the partial bitmap has been sent. If NR is not in the group of packets, then the bitmap represents the group of packets subsequent to



the group of packets containing NR. Since NR is an indication of the number of correctly received packets, NR together with the subfield "c" indicates if more partial bitmaps should be expected at the transmitter.

35 U.S.C. 102(e) rejection of claims 26 and 27.

Col. 4, lines 7-36 in Ejzak teach periodically sending from the receiver to the transmitter a ordered bitmap specifying a 1 in an ordered packet position for a correctly received packet and a 0 for an incorrectly received packet. Consecutive zeros indicate consecutively incorrectly received packets.

35 U.S.C. 102(e) rejection of claims 28 and 29.

Figures 4 and 7 in Ejzak.

35 U.S.C. 102(e) rejection of claim 31.

Col. 4, lines 37-55 and Figure 3 in Ejzak teach that if traffic is not heavy an acknowledgment message comprising a plurality of partial bitmaps is sent.

35 U.S.C. 102(e) rejection of claim 36.

Figure 2 in Ejzak.

35 U.S.C. 102(e) rejection of claim 37.

Memory 215 in Figure 2 of Ejzak.

35 U.S.C. 102(e) rejection of claim 38.

Col. 3, lines 1-4 in Ejzak teach the use of CRC codes which are standard check codes.

35 U.S.C. 102(e) rejection of claim 40.

Figure 2 in Ejzak.

### ***Claim Rejections - 35 USC § 102/103***

MPEP 2105 states where applicant claims a composition in terms of a function, property or characteristic and the composition of the prior art is the same as that of the claim but the function is not explicitly disclosed by the reference, the examiner may make a rejection under both 35 U.S.C. 102 and 103, expressed as a 102/103 rejection. "There is nothing inconsistent in concurrent rejections for obviousness under 35 U.S.C. 103 and for anticipation under 35 U.S.C. 102." In re Best, 562 F.2d 1252, 1255 n.4, 195 USPQ 430, 433 n.4 (CCPA 1977). This same rationale should also apply to product, apparatus, and process claims claimed in terms of function, property or characteristic. Therefore, a 35 U.S.C. 102/103 rejection is appropriate for these types of claims as well as for composition claims.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148

USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

2. Claims 30 and 39 are rejected under 35 U.S.C. 102/103(a) as being unpatentable over Ejzak; Richard P. et al. (US 5444718 A, hereafter referred to as Ejzak) and Guida; Allan A. et al. (US 5315617 A, hereafter referred to as Guida). Note: Guida is a teaching reference teaching 4-bit packets.

35 U.S.C. 102/103(a) rejection of claims 30 and 39.

Ejzak substantially teaches the claimed invention described in claim 23-29 and 35 (as rejected above).

However Ejzak does not explicitly teach the specific use of 4-bit datagrams.

The Examiner asserts that one of ordinary skill in the art at the time the invention was made would have recognized that the teachings in Khan encompass any size block datagram and modifying the block size is an obvious modification of the teachings in Ejzak to satisfy a particular communication protocol.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teachings of Ejzak by including use of 4-bit

datagrams. This modification would have been obvious to one of ordinary skill in the art, at the time the invention was made, because one of ordinary skill in the art would have recognized the teachings of Ejzak would have provided an integrity mechanism for data transmitted using 4-bit datagrams.

3. Claims 32-34, 41 and 42 are rejected under 35 U.S.C. 102/103(a) as being unpatentable over Ejzak; Richard P. et al. (US 5444718 A, hereafter referred to as Ejzak) in view of Johansson; Mathias et al. (US 6643813 B1, hereafter referred to as Johansson).

35 U.S.C. 102/103(a) rejection of claims 32-34, 41 and 42.

Ejzak substantially teaches the claimed invention described in claim 23-31 and 35 (as rejected above).

However Ejzak does not explicitly teach the specific use of an ARQ protocol in a W-CDMA radio link protocol.

Johansson, in an analogous art, teaches use of an ARQ protocol in a W-CDMA radio link protocol (col. 2, lines 21-30 in Johansson).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Ejzak with the teachings of Johansson by including use of an ARQ protocol in a W-CDMA radio link protocol. This modification would have been obvious to one of ordinary skill in the art, at the time the invention was made, because

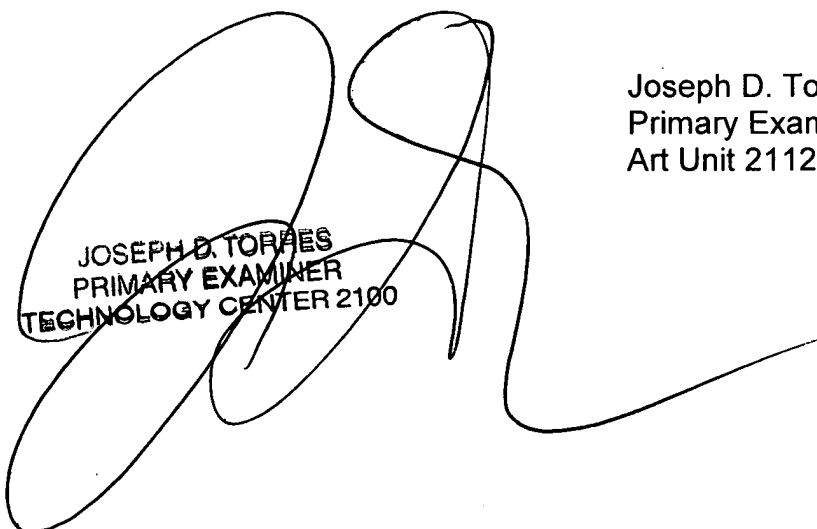
one of ordinary skill in the art would have recognized that the teachings of Khan would have provided an integrity mechanism for a W-CDMA radio link protocol.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph D. Torres whose telephone number is (571) 272-3829. The examiner can normally be reached on M-F 8-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jacques Louis-Jacques can be reached on (571) 272-6962. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



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